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SCHOOL BREAKFAST CLUBS, SOCIAL BACKGROUND AND NUTRITIONAL STATUS

After being popular across other countries for many years, the number of school breakfast clubs in the UK has expanded dramatically since the late 1990s. They are viewed as being able to make a positive contribution in terms of meeting the educational, care and health needs of children – particularly those in greatest need from poorer backgrounds. But research in this country on the effectiveness of school breakfast provision remains limited and largely anecdotal. Donald Simpson, Carolyn Summerbell, Robert Crow and Louise Wattis report on a study that evaluated the impact of two school breakfast clubs from a health perspective.

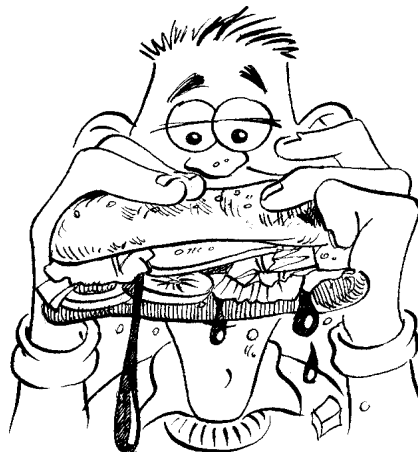
BACKGROUND

School breakfast projects are viewed as a serious contribution in helping to tackle a range of current areas of concern (1). In the late 1990s the concept of school breakfast clubs was legitimised by an endorsement from the Labour government through its health and education policies (2). Children require many different nutrients if they are to maintain health and reduce the risk of diet-related diseases (3). In June 2000 the *National Diet and Nutrition Survey: Young people aged 4 to 18 years* (4) demonstrated regional and socio-economic differences in dietary intakes. Pupils from poorer backgrounds were less likely to have an adequate nutrient intake. A recent report reviewing research on school breakfast clubs mentioned no UK-based studies that had evaluated the impact of such provision on pupils' nutrient intakes (5). Commissioned by the NHS, the University of East Anglia recently undertook research on school breakfast clubs that involved a diet study (6), but this is still pending. In this context, the research reported in this article aimed to make an important contribution to understandings with regard to the potential of school breakfast clubs as it explored their impact on the nutrient intakes of pupils from a lower socio-economic background.

METHODOLOGY

This research was completed in a primary school and a special school with breakfast clubs supported through the East Middlesbrough Education Action Zone (EMEAZ). The research extended earlier evaluation work examining the impact of the EMEAZ's breakfast clubs from an educational perspective (7). Data were obtained in the summer term 2001. A record of dietary intake was collected using a one-day dietary recall. The latter was used in conjunction with booklets providing photographs of food portion sizes. Data collectors also recorded each child's age, sex and regularity of attendance at breakfast club. School meal eligibility was also ascertained for all pupils. While not ideal, the latter has been used widely across educational research as a measure of socio-economic status. In both schools, consent of the parents and pupils was sought. This process resulted in an overall sample of 145 pupils (from a possible total of 186): 107 from Years 2 and 5 of the primary school and 38 from Years 8 and 10 of the special school. The choice of these year groups was intended to ensure that the sample included a population of children from each key stage of the schooling system.

Children require many different nutrients.



RESULTS AND DISCUSSION

Data were analysed to give an indication of whether or not an individual's nutrient intake fell above or below the Reference Nutrient Intakes (RNIs) on the day of the study. RNIs are age and sex specific reference values for the UK that can be used to estimate whether a person is likely to be consuming enough of a particular nutrient. Table 1 shows the numbers and percentages of the children overall in the sample that were above or below the RNI for specific nutrients on the day when food intake data were collected. Of concern is the percentage of children falling below the RNI for each nutrient, particularly vitamin D and zinc.

Table 1. Overall nutrient intakes and levels above or below RNI

Nutrient	All pupils in sample			
	Above RNI		Below RNI	
Vitamin C	93	64.1%	2	35.9%
Vitamin D	32	22.1%	113	77.9%
Protein	132	91.0%	13	9.0%
Calcium	98	67.6%	47	32.4%
Iron	5	51.7%	70	48.3%
Zinc	48	33.1%	97	66.9%

Table 2 lists the numbers and percentages of children that attended breakfast club on the day of the data collection that were above and below the RNI for specific nutrients. Also presented are the numbers and percentages of children that attended breakfast club on the day of the data collection and who were eligible for free school meals that were above and below the RNI for specific nutrients. Except for calcium and iron, a greater percentage of children who were eligible for free school meals were above the RNI for the specific nutrients. The figures for vitamin C are particularly interesting. Unlike the other nutrients listed, the RNI for vitamin C is required every day since humans cannot store this vitamin in their body. For the other nutrients, children could, in theory, compensate for a low intake on one day by consuming more on the next since these nutrients can be stored in the body.

Table 2. Breakfast club participants and RNI status

Nutrient	Breakfast Club group (all)				Breakfast Club group (free)			
	Above RNI		Below RNI		Above RNI		Below RNI	
Vitamin C	33	76.7%	10	23.3%	19	86.4%	3	13.6%
Vitamin D	12	27.9%	31	72.1%	8	36.4%	14	63.6%
Protein	42	97.7%	1	2.3%	22	100%	–	–
Calcium	30	69.8%	13	30.2%	15	68.2%	7	31.8%
Iron	25	58.1%	18	41.9%	11	50.0%	11	50.0%
Zinc	13	30.2%	30	69.8%	7	31.8%	15	68.2%

Two important findings emerge from the data in Table 2. First, in comparison with all pupils in the study, a greater percentage of the group of pupils attending breakfast club on the day of the study were above the RNI for each nutrient examined. Second, in comparison with the whole group of pupils that attended breakfast club, a greater percentage of those who attended and were eligible for free school meals were above the RNI for several important nutrients. The data suggested that school breakfast clubs may have a positive impact on dietary intake by supplementing the nutritional requirements of those pupils that attend, particularly those who are also eligible for free school meals. This issue was further explored.

The mean intakes were calculated under each nutrient examined for the group of children eligible for free school meals that attended school breakfast club on the day of data collection and the group of pupils eligible for free school meals that did not. The group attending breakfast club had higher intakes of all nutrients examined, with the absolute differences being particularly large with regard to vitamin C, protein and calcium. The same comparison for pupils not eligible for free school meals found no great degree of difference between those who did or did not attend breakfast club.

This result provided further modest evidence that the two breakfast clubs participating in this study appeared to be having a positive impact by supplementing the diet of those pupils who attended breakfast club and were in greatest need – i.e. pupils from lower socio-economic background as indicated by their eligibility for free school meals. This supplementary effect is important because it is clear that not all school children are consuming sufficient amounts of important nutrients (3), particularly those from poorer backgrounds (4). It seems the commitment to school breakfast clubs shown by members of the EMEAZ's forum and staff in the two schools participating has not been misplaced.

Acknowledgement

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This site is sponsored by Kellog's, NPI (New Policy Institute) and Education Extra. The resource section contains practical ideas and advice on good practice and funding to support the development of a breakfast club. There is also comprehensive information on other funding sources and a list of useful links.

<http://www.breakfastclubs.net>

This site provides information about the National Evaluation of School Breakfast Clubs funded by the Department of Health.

A multi-disciplinary research team at the University of East Anglia, Norwich, has conducted the evaluation. Evaluation Summary Part 1 is now available to download in PDF format. Users can also view online a journal article 'School Breakfast Clubs, Children and Family Support', Shemilt, O'Brien, Thoburn *et al.*, *Children and Society* (In press).

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